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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,023	09/28/2000	Richard S. Burton	60944.3300	7669
7590	01/27/2004		EXAMINER	
SCOTT A. HORSTEMEYER THOMAS,KAYDEN,HORSTEMEYER & RISLEY, L.L.P. 100 GALLERIA PARKWAY SUITE 1750 ATLANTA, GA 30339			LEE, HSIEN MING	
			ART UNIT	PAPER NUMBER
			2823	
			DATE MAILED: 01/27/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/675,023	BURTON ET AL.	
	Examiner Hsien-Ming Lee	Art Unit 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 November 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 25,33,36-42,44,48-51,55-57 and 68-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 36 and 44 is/are rejected.
- 7) Claim(s) 25, 33, 37-42, 48-51, 55-57, 68, 69 and 70 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Remarks*

1. Applicant's cancellation to claims 1-24, 26-32, 34, 35, 43, 45-47, 52-54 and 58-67 is acknowledged. Claims 69 and 70 are newly added. Thus, claims 25, 33, 36-42, 44, 48-51, 55-57 and 68-70 are pending in the application.
2. The objection to claims 28, 29, 57, 59, 64, 66, 67; 112-second paragraph rejection to claims 1, 21, 34, 43 and 61; 102(e) rejection; 103(a) rejection; and double patenting rejection to claims 29 and 30 are withdrawn.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 36 and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation " said refractory layer is **substantially** free of gold" renders indefinite because the specification lacked some standard for measuring the degree intended. (Emphasis added) See M.P.E.P. 2173.05(b), F.

### *Claim Objections*

5. Claims 69 and 70 filed 11/3/03 are objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "said refractory layer is **entirely free of gold**", as recited in newly added claims 69 and 70. (Emphasis added)

Applicant is required to cancel the new matter in the reply to this Office Action.

***Allowable Subject Matter***

6. Claims 25, 33, 37-42, 49-51, 68, 48 and 55-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 36 and 44 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
8. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art of record, Burton et al. to US 6,573,599, teaches a similar method, as stated in the previous Office Action. However, Burton et al. at least neither teach nor suggest that the reactive layer is nickel and *an adhesive element* (claims 36 and 44), wherein the adhesive element is chosen from at least one of *chromium, titanium, and silicon* (claim 25).

***Response to Arguments***

9. Applicant's arguments filed 11/3/03 have been fully considered but they are not persuasive.

In re the term "said refractory layer substantially free of gold", applicant argued the term is not indefinite because one of ordinary skill in the art would comprehend what is meant by "substantially free of gold." To support the assertion, applicant referred to the description stated in page 9, lines 21 – 26, wherein it states that "[t]hose skilled in the art will appreciate that there has been provided a method of forming contacts on compound semiconductor-based HBTs that minimizes contact resistance, prevents

punchthrough of reactive contact metallization, reduces raw material costs by eliminating and/or minimizing the use of precious metals such as gold and platinum, and facilitates manufacturing by reducing the number of metallization layers in the contact structure, without sacrificing device performance and functionality.”

In response to the argument, even minimizing using gold is interpreted as “substantially free of gold, it is still **not clear** whether it refers to minimizing gold in either the “reactive layer” or the “refractory layer.”

*In re* the limitation “said refractory layer is entirely free of gold”, as recited in newly added claims 69 and 70, also lacks any written support. Even eliminating using gold is interpreted as “entirely free of gold, it is also **not clear** whether it refers to eliminating gold in either the “reactive layer” or the “refractory layer.”

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-Ming Lee whose telephone number is 703-305-7341 (before Feb. 4, 2004) or 571-272-1863 (on and after Feb. 2, 2004). The examiner can normally be reached on M-F (9:00 ~ 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone number for the organization where this application or proceeding is assigned is 703-305-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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Hsien-Ming Lee  
Examiner  
Art Unit 2823

Jan. 23, 2004

A handwritten signature in black ink, appearing to read "Lee".